

WHAT IS CLAIMED IS:

1. An automation system for solving a process-related task definition or operating a technical system, comprising:

5 a computer system, which, in at least one field level with field bus components and automation devices, is broken down into a control level with at least one server and a client level with one or more client computers, the computer system including an automation category comprising system objects, said objects including at least one of physical system objects and part-processes, the automation category further comprising functions which incorporate said system objects in a process-related sequence, the automation category being developed within one standard context for different types of individual automation elements of an automated task and being developed on the basis of server-related data elements and client-related data elements, and wherein the automation elements are each compiled using server-related data elements, client-related data elements, and function elements, which are configured so as to optimize predetermined requirements of the automation elements.

10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235 240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325 330 335 340 345 350 355 360 365 370 375 380 385 390 395 400 405 410 415 420 425 430 435 440 445 450 455 460 465 470 475 480 485 490 495 500 505 510 515 520 525 530 535 540 545 550 555 560 565 570 575 580 585 590 595 600 605 610 615 620 625 630 635 640 645 650 655 660 665 670 675 680 685 690 695 700 705 710 715 720 725 730 735 740 745 750 755 760 765 770 775 780 785 790 795 800 805 810 815 820 825 830 835 840 845 850 855 860 865 870 875 880 885 890 895 900 905 910 915 920 925 930 935 940 945 950 955 960 965 970 975 980 985 990 995 1000 1005 1010 1015 1020 1025 1030 1035 1040 1045 1050 1055 1060 1065 1070 1075 1080 1085 1090 1095 1100 1105 1110 1115 1120 1125 1130 1135 1140 1145 1150 1155 1160 1165 1170 1175 1180 1185 1190 1195 1200 1205 1210 1215 1220 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6. The automation system as claimed in claim 1, wherein a plurality of client elements of the automation category exist simultaneously.

7. The automation system as claimed in claim 1, wherein client elements of the automation category are linked to a corresponding pre-existing server element thereof as and when the client elements are created.

8. The automation system as claimed in claim 1, wherein individual automation elements are graphically and textually integrated in the automation category.

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9. The automation system as claimed in claim 1, wherein the automation elements are defined via at least one of a control system, an alarm system, a display, a user interface, a data input, and a data evaluation system.

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10. The automation system as claimed in claim 1, wherein the automation elements are each categorized as one of server elements and client elements depending on subsequent application, technical requirements, and execution thereof.

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11. The automation system as claimed in claim 1, wherein the automation elements include automation elements relating to a control system and data input, and wherein the automation elements relating to the control system and data input constitute server elements.

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12. The automation system as claimed in claim 1, wherein the automation elements include automation elements relating to a user interface, display, and data evaluation, and wherein the automation elements relating to the user interface, display, and data evaluation constitute client elements.

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13. The automation system as claimed in claim 1, wherein programming means for functions are set up to cover automation elements.

14. The automation system as claimed in claim 1, wherein the function elements cooperate with the client-related data elements and the server-related data elements.

15. The automation system as claimed in claim 1, wherein subsidiary aspects of the automation elements are provided in the form of one or more of a configuration interface, an image processing system, a simulation, and documentation.

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16. The automation system as claimed in claim 1, wherein the control level is provided with at least one server pair to provide a redundant structure.

17. A method of solving an automated task definition made up of automation elements of different types with the aid of a computer system comprising several hardware-related levels broken down into a control level having at least one server and a client level having one or more client computers, the method comprising:

10 solving the entire task definition on a template basis using an automation category for system objects and functions, said system objects including at least one of physical system objects and part-processes, wherein the functions incorporate the system objects in a process-related sequence, and wherein a category-specific data record is created in which, in addition to control data, at least one of data for a display and data for a user interface is also defined, all parts of the data record being defined within the context of the automation category and being categorized into server-related data elements and client-related data elements, and wherein each of the automation elements is compiled on the basis of the server-related data elements, client-related elements, and function elements made up of graphical and textual mechanisms designed to optimize predetermined requirements of the automation element.

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20 18. The method as claimed in claim 17, wherein the data record is divided into server elements and client elements by reference to the different types of automation elements and physical devices.

25 19. The method as claimed in claim 17, wherein the data record is created in at least one of graphical and text format.

30 20. The method as claimed in claim 17, wherein all function elements of the

automated task are solved within the context of the automation category and are also categorized as server-related function elements and client-related function elements.

21. The method as claimed in claim 17, wherein the automation category is  
5 published in a library.

22. The method as claimed in claim 21, wherein the library is provided so as to be accessible by network devices.

10 23. The method as claimed in claim 22, wherein a plurality of automation categories of different types are published in the library, and wherein the different types of automation categories of the library are made available to users via a global, network facility.

15 24. The method as claimed in claim 17, wherein automation projects are compiled from one or more individual copies of one or more automation categories and the structure of the data record and the functions of said automation categories are imported into each copy of the automation categories.

20 25. The method as claimed in claim 24, wherein the copies of the automation categories are linked to the automation project with a programming means that is also used to create the automation categories.

25 26. The method as claimed in claim 17, wherein several automation categories are in turn compiled to form a separate automation category and represent part-processes accordingly.

30 27. The method as claimed in claim 17, wherein the automation elements are categorized into server elements and client elements firstly on the basis of subsequent application thereof, then on the basis of technical requirements and execution thereof.

28. The method as claimed in claim 17, wherein the server elements exist for the

entire life of the automation category and the client elements are created from scratch every time the respective function or the respective automation element is needed.

29. The method as claimed in claim 17, wherein each of the server elements  
5 exists permanently and once only per automation category and wherein at least one of the client elements exists on a multiple basis and simultaneously.